

REMARKS

Claims 33-45 are cancelled. New claims 57-69 are added. Claims 57-69 are pending in the application.

We refer to the Examination Report dated 12/06/05.

35 U.S.C. 112 – Indefiniteness

Claims 33-45 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to point out and distinctly claim the subject matter the applicant regards as the invention. The claims have been reworded to clarify the invention. Accordingly, claims 33 – 45 are cancelled and are replaced by new claims numbered 57-69.

35 U.S.C 103(a) – Spears and Curlett et al

Claims 33-45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over either **Spears**, U.S. Patent No. 5,049,260; or **Curlett et al**, U.S. Patent No. 6,386,300. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. In order to establish a *prima facie* case of obviousness, the burden of which is upon the patent office, each of these three factors must be shown. The pending claims are allowable over **Spears** and **Curlett et al** for at least the reason that the

references, individually or in combination, fail to disclose or suggest each and every element in any of the claims.

The claims have been amended to include a final cutting step of the work piece using a high pressure abrasive slurry jetted from a nozzle.

The subject invention can be distinguished from the two cited documents for a number of reasons. These reasons include the following:

a) The partitioning/separation process

The nature of the cutting of the work piece results in larger pieces of material (from the workpiece) passing into the slurry in addition to those that which were originally present.

The partitioning apparatus of the subject invention requires a finely balanced portioning of at least two (and generally three) streams on size or density; namely undersized, right sized and oversized materials. This involves a fine balance of flow and velocity parameters. The flow rate and velocity of the flow leads to a flow entrainment over a pervious surface but through which denser particles can fall from their entraining flow through the flurry. This ability to partition a number of materials sizes or densities in the essentially one process distinguishes the current invention from both cited documents.

Spears relates to a blast cleaning system whereby an abrasive slurry of small particle size is used to refine the surface of a target. The particle size problem dealt with in that disclosure is a reduction problem whereby the particle sizes are reduced in the process and various grades of smaller particle size needs to be separated. There is no one partitioning zone or action which deals with the use of oversized, right sized and undersized materials. In one instance where the possibility of the presence larger particles is discussed, these larger particles are removed upstream by virtue of a screen – as is claimed in claim 4 “*the mesh is interposed between the blasting location and the upwardly open hopper*”.

Thus when there is only one partitioning step in this disclosure it is only capable of removing undersized particles. When oversized particles are introduced, then an upstream removal is required.

Curlett et al whilst having larger particle pieces in the material emphasizes the difference in size of the larger particular species. Column 11 Line 24 “*A majority by weight of the impactors applicable to this invention are dimensionally larger and of a relatively greater mass than particles used under prior art technology, such as abrasive jetting*”. These are substantially different particles and the material stream being considered has an entirely different size and density distribution.

It is not possible to separate out the differing sizes discussed in this disclosure in the one zone or partitioning process. The impactors have a known size and distribution which

render their separation quite distinct from that of the subject invention. No fine balance of fluid flow element is required.

b) the inability to carry out a cutting process with the disclosed processes

As mentioned previously the claims have been amended to require a final cutting step of the work piece using a high pressure abrasive slurry jetted from a nozzle. Neither of the arrangements of the two documents would be capable of this function. Precision cutting is not contemplated. Indeed it would be impossible to jet from a nozzle the material of **Curlett et al**, or at least in such a way to cut a work piece in a controlled fashion. We do not believe that either **Curlett et al** or **Spears** make it obvious to include a cutting step in any process given the unsuitability of their disclosures for such a process. Accordingly, claims 57-69 are allowable over the art of record.

For the reasons discussed above, claims 57-69 are allowable. Accordingly, applicant requests formal allowance of such claims in the Examiner's next action.

Respectfully submitted,

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